bonding the front panel and the back panel by maintaining a bonding temperature equal to or higher than a temperature at which the sealing material softens,

a fluorescent substance layer being formed on at least one of the front panel and the back panel,

a sealing material layer being formed on at least one of the front panel and the back panel,

wherein the bonding step is performed while a dry gas is circulated in the inner space.

193. (New) The PDP production method of Claim 192, wherein the bonding step is performed while an operation of charging the dry gas into the inner space and an operation of exhausting gases from the inner space are performed alternately.

194. (New) The PDP production method of Claim 192, wherein

in the bonding step, temporary baking of the sealing material layer is further performed.

195. (New) The PDP production method of Claim 192, wherein

the bonding step is performed while the dry gas is circulated in the inner space and

a pressure inside the inner space is maintained a bonding pressure lower than atmospheric pressure.

196. (New) The PDP production method of Claim 195, wherein the bonding pressure is 500 Torr or lower.

197. (New) The PDP production method of Claim 195, wherein the bonding pressure is 300 Torr or lower.

198. (New) The PDP production method of Claim 195, wherein

the front panel and the back panel are heated while the fluorescent substance layer is under a pressure higher than the bonding pressure, then

a gas pressure in the inner space is reduced to the bonding pressure, and

the bonding step is started in this condition.

199. (New) The PDP production method of Claim 198, wherein

the front panel and the back panel are heated to a temperature equal to or higher than a softening point of the sealing material while the fluorescent substance layer is under a pressure higher than the bonding pressure, then

a gas pressure in the inner space is reduced to the bonding pressure, and

the bonding step is started in this condition.

200. (New) The PDP production method of Claim 198, wherein the front panel and the back panel are heated to 300°C or higher while the fluorescent substance layer is under a pressure higher than the bonding pressure, then

a gas pressure in the inner space is reduced to the bonding pressure, and

the bonding step is started in this condition.

201. (New) The PDP production method of Claim 198, wherein

the front panel and the back panel are heated to 350°C or higher while the fluorescent substance layer is under a pressure higher than the bonding pressure, then

a gas pressure in the inner space is reduced to the bonding pressure, and

the bonding step is started in this condition.

202. (New) The PDP production method of Claim 198, wherein

the front panel and the back panel are heated to 400°C or higher while the fluorescent substance layer is under a pressure higher than the bonding pressure,

then a gas pressure in the inner space is reduced to the bonding pressure, and

the bonding step is started in this condition.

203. (New) The PDP production method of Claim 195, wherein

in the bonding step, gases are forcibly exhausted from the inner space.

204. (New) The PDP production method of Claim 192, wherein

in the sealing material layer forming step, the sealing material layer is formed in a frame shape at an outer region of at least one of: the side of the front panel facing the back panel; and the side of the back panel facing the front panel, and

a plurality of partition walls are formed in stripes, before the bonding step, on one of:. the side of the front panel facing the back panel; and the side of the back panel facing the front panel so that the plurality of partition walls are inside the sealing material layer and that a pair of first gaps are formed between edges of the plurality of partition walls and two inside sides of the sealing material layer, wherein the minimum width of the pair of first gaps is larger than the minimum width of a pair of second gaps between two outermost ones of the plurality of partition walls and the Other sides of the sealing material layer, and

in the bonding step, the dry gas moves from one of the pair of first gaps to the other.

205. (New) The PDP production method of Claim 192, wherein

in the sealing material layer forming step, the sealing material layer is formed in a frame shape at an outer region of at least one of: the side of the front panel facing the back panel; and the side of the back panel facing the front panel, and

a plurality of first partition walls are formed in stripes before the bonding step, on one of: the side of the front panel facing the back panel; and the side of the back panel facing the front panel so that the plurality of partition walls are inside a second partition wall which is formed to be in contact with inside of the sealing material layer and that a pair of first gaps are formed between edges of the plurality of partition walls and two inside sides of the second partition wall, wherein the minimum width of the pair of first gaps is larger than the minimum width of a pair of second gaps between two outermost ones of the plurality of partition walls and the other sides of the second partition wall, and

in the bonding step, the dry gas moves from one of the pair of first gaps to the other.

206. (New) The PDP production method of Claim 192, wherein

partial pressure of steam vapor in the dry gas is 15 Torr or less in an atmosphere in which the dry gas is used.

207. (New) The PDP production method of Claim 192, wherein

a dew-point temperature of the dry gas is 20°C or lower.

208. (New) The PDP production method of Claim 192, wherein the dry gas contains oxygen.

209. (New) The PDP production method of Claim 208, wherein the dry gas is dry air.

210. (New) A PDP display apparatus comprising:

a PDP produced by the PDP production method of Claim 192, and

an activating circuit for activating the PDP.

211. (New) A PDP production method comprising:

a bonding step for putting a front panel and a back panel together to form inner space between the panels, and bonding the front panel and the back panel by maintaining a bonding temperature equal to or higher than a temperature at which the sealing material softens, a fluorescent substance layer being formed on at least one of the front panel and the back panel; and

a heating step for heating the bonded front panel and the back panel to a temperature higher than a room temperature while a dry gas is circulated in the inner space.

212. (New) The PDP production method of Claim 211 further comprising:

an exhausting step for, after the heating step, exhausting gases from the inner space while maintaining exhaust temperature for the bonded panels higher than a room temperature.

213. (New) The PDP production method of Claim 212, wherein

the temperature in the heating step is equal to or higher than the exhaust temperature.

214. (New) The PDP production method of Claim 212, wherein at least one of the temperature in the heating step and the exhaust temperature is 360°C or higher.

215. (New) The PDP production method of Claim 212, wherein at least one of the temperature in the heating step and the exhaust temperature is 380°C or higher.

216. (New) The PDP production method of Claim 212, wherein at least one of the temperature in the heating step and the exhaust temperature is 400°C or higher.

217. (New) The PDP production method of Claim 211, wherein partial pressure of steam vapor in the dry gas is 15 Torr or less in an atmosphere in which the dry gas is used.

218. (New) The PDP production method of Claim 211, wherein a dew-point temperature of the dry gas is 20°C or lower.

219. (New) The PDP production method of Claim 211, wherein the dry gas contains oxygen.

220. (New) The PDP production method of Claim 219 wherein the dry gas is dry air.

221. (New) A PDP production method comprising:

a heating step for heating a first panel while an MgO layer formed on the first panel is in contact with a dry gas; and

a bonding step for, after the heating step, putting the first panel and a second panel together, and bonding the first panel and the second panel, a fluorescent substance layer being formed on the second panel.

222. (New) The PDP production method of Claim 221, wherein

partial pressure of steam vapor in the dry gas is 15 Torr or less in an atmosphere in which the dry gas is used.

223. (New) The PDP production method of Claim 221, wherein the dew-point temperature of the dry gas is 20'C or lower.

224. (New) The PDP production method of Claim 221, wherein the dry gas contains oxygen.

225. (New) The PDP production method of Claim 224, wherein the dry gas is dry air.

226. (New) A PDP production method comprising:

a preparative heating step for heating a front panel and a back panel in an atmosphere of dry gas while a space between the sides of the panels facing each other is opened, a fluorescent substance layer being formed on at least one of the front panel and the back panel, a sealing material layer being formed on at least one of the front panel and the back panel; and

a bonding step for, after the preparative heating step, putting the front panel and the back panel together to form inner space between the panels, and bonding the front panel and the back panel by maintaining a bonding temperature equal to or higher than a softening point of the sealing material.

227. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to a temperature lower than the softening point of the sealing material, and

in the bonding step, the panels are put together and heated to the bonding temperature to be bonded together.

228. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to a temperature higher than the bonding temperature, and

the front panel and the back panel are cooled to the bonding temperature then the bonding step is started.

229. (New) The PDP production method of Claim 226, wherein

the preparative heating step is performed while the front panel and the back panel are under a pressure lower than an atmospheric pressure.

230. (New) The PDP production method of Claim 226, wherein

the preparative heating step is performed while the front panel and the back panel are in an atmosphere in which a dry gas is circulated.

231. (New) The PDP production method of Claim 226, wherein

the preparative heating step is performed while gases released from the front panel and the back panel when the panels are heated are forcibly exhausted to outside.

232. (New) The PDP production method of Claim 226 further comprising:

a separating step for properly positioning the front panel and the back panel, putting the panels together, and separating the front panel and the back panel from each other by moving the panels along a certain path, the separating step being performed before the preparative heating step, wherein

in the bonding step, the front panel and the back panel are put together by moving the panels in a direction opposite to a movement along the certain path of the separating step.

233. (New) The PDP production method of Claim 232, wherein

in the separating step and the bonding step, the front panel and the back panel are moved to positions parallel to themselves.

234. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to 200°C or higher.

235. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to 300°C or higher.

236. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to a temperature in a range of 300°C to 400°C.

237. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to 400°C or higher.

238. (New) The PDP production method of Claim 226, wherein

in the preparative heating step, the front panel and the back panel are heated to a temperature in a range of 450°C to 520°C.

239. (New) The PDP production method of Claim 226, wherein

in the sealing material layer forming step, the sealing material layer is formed on both of: the side of the front panel facing the back panel; and the side of the back panel facing the front panel, and

in the bonding step, the front panel and the back panel are put together by matching the sealing material layers formed on the panels to each other.

240. (New) The PDP production method of Claim 226, wherein

partial pressure of steam vapor in the dry gas is 15 Torr or less in an atmosphere in which the dry gas is used.

241. (New) The PDP production method of Claim 226, wherein

a dew-point temperature of the dry gas is 20°C or lower.

242. (New) The PDP production method of Claim 226, wherein

the dry gas contains oxygen.

243. (New) The PDP production method of Claim 242, wherein the dry gas is dry air.

244. (New) A PDP production apparatus for putting a front panel and a back panel together with a fluorescent substance layer formed on at least one of: a side of the front panel facing the back panel; and a side of the back panel facing the front panel and with a sealing material formed between the front panel and the back panel, and bonding the panels to form inner space between the panels by heating the panels and softening the sealing material, the PDP production apparatus comprising:

a heating mechanism for heating the front panel and the back panel;

a moving mechanism for moving the front panel and the back panel having been put together to separate the panels from each other along a certain path and putting the front panel and the back panel by moving the panels in an opposite direction.

245. (New) A PDP production method comprising:

a bonding step for putting a front panel and a back panel together to form inner space between the panels, and bonding the front panel and the back panel by maintaining a bonding temperature equal to or higher than a temperature at which the sealing material softens, a fluorescent substance layer being formed on at least one of the front panel and the back panel, and a sealing material layer being formed on at least one of the front panel and the back panel, wherein the bonding step is performed while the dry gas is circulated in the inner space; and

an exhausting step for exhausting gases from the inner space while maintaining exhaust temperature for the bonded panels higher than a room temperature, wherein

the exhausting step is started before the temperature of the bonded panels reduces to the room temperature.

246. (New) The PDP production method of Claim 245, wherein

after the bonding step is performed, the exhausting step is started after the bonded panels are cooled to the exhaust temperature.

247. (New) The PDP production method of Claim 245, wherein

after the bonding step is performed, the exhausting step is started while the temperature of the bonded panels is maintained approximately equal to the bonding temperature.

248. (New) A PDP production method comprising:

a fluorescent substance layer forming step for forming a fluorescent substance layer on at least one of a front panel and a back panel;

a sealing material applying step for applying a sealing material onto at least one of the front panel and the back panel;

a temporary baking step for putting the front panel and the back panel together to form inner space between the panels, and temporarily baking the front panel and the back panel while circulating a dry gas in the inner space and maintaining a temporary baking temperature; and

a bonding step for, after the temporary baking step, bonding the front panel and the back panel by maintaining a bonding temperature equal to or higher than a temperature at which the sealing material softens, wherein

the bonding step is started before the temperature of the panels heated in the temporary baking step reduces to the room temperature.

249. (New) The PDP production method of Claim 248, wherein

the bonding step is performed while the dry gas is circulated in the inner space.

250. (New) The PDP production method of Claim 248 further comprising:

an exhausting step for exhausting gases from the inner space while maintaining an exhaust temperature for the bonded panels higher than a room temperature, wherein

the temporary baking step through the exhausting step including the bonding step ate performed while the temperature of the front panel and the back panel is kept higher than the room temperature.

251. (New) The PDP production method of Claim 250, wherein

the bonding step is performed while the dry gas is circulated in the inner space.

252. (New) The PDP production method of Claim 250, wherein

after the temporary baking step is performed, the bonding step is started after the panels, that have been heated to the temporary baking temperature, are further heated to the bonding temperature.

253. (New) The PDP production method of Claim 250, wherein

after the bonding step is performed, the exhausting step is started the temperature of the bonded panels is reduced to the exhaust temperature.

254. (New) The PDP production method of Claim 250, wherein

the temporary baking step is performed under a reduced pressure.

255. (New) The PDP production method of Claim 248, wherein

after the temporary baking step is performed, the bonding step is started after the panels, that have been heated to the temporary baking temperature, are further heated to the bonding temperature.

256. (New) A PDP production method comprising:

a fluorescent substance layer forming step for forming a fluorescent substance layer on at least one of a front panel and a back panel;

a sealing material applying step for applying a sealing material onto at least one of the front panel and the back panel;

a temporary baking step for temporarily baking the panels onto which the sealing material layer has been applied;

a preparative heating step for, after the temporary baking step, heating the front panel and the back panel in an atmosphere of dry gas while a space between the sides of the panels facing each other is opened; and

a bonding step for, after the preparative heating step, putting the front panel and the back panel together, and bonding the front panel and the back panel by maintaining a bonding temperature equal to or higher than a softening point of the sealing material, wherein

the bonding step is started before the temperature of the panels heated in the preparative heating step reduces to the room temperature.

257. (New) The PDP production method of Claim 256 further comprising:

an exhausting step for exhausting gases from the inner space while maintaining an exhaust temperature for the bonded panels higher than a room temperature, wherein

the temporary baking step through the exhausting step including the bonding step are performed while the temperature of the front panel and the back panel is kept higher than the room temperature.

258. (New) The PDP production method of Claim 256, wherein

in the preparative heating step, the front panel and the back panel are heated to a temperature higher than the temporary baking temperature.

259. (New) The PDP production method of Claim 256, wherein

in the preparative heating step, the front panel and the back panel are heated to a temperature higher than the bonding temperature, then the bonding step is started after the front panel and the back panel are cooled to the bonding temperature.

260. (New) The PDP production method of Claim 256, wherein

the preparative heating step is performed under a reduced pressure.

261. (New) The PDP production method of Claim 256, wherein

the bonding step is performed while the dry gas is circulated in the inner space.

262. (New) The PDP production method of Claim 256, wherein

the temporary baking step is performed while the front panel and the back panel are put together to form inner space between the panels, and the dry gas is circulated in the inner space.

263. (New) The PDP production method of Claim 256, wherein

partial pressure of steam vapor in the dry gas is 15 Torr or less in an atmosphere in which the dry gas is used.

264. (New) The PDP production method of Claim 256, wherein

the dew-point temperature of the dry gas is 20° or lower.

265. (New) The PDP production method of Claim 256, wherein

the dry gas contains oxygen.

266. (New) The PDP production method of Claim 256, wherein

the dry gas is dry air.

267. (New) A PDP including a plurality of cells formed between a pair of panels parallel to each other, the plurality of cells including blue cells in each of which a blue fluorescent substance layer is formed, and the plurality of cells being filled with a gas medium, wherein

the chromaticity coordinate y in the CIE color specification of light emitted from the blue cells when vacuum ultraviolet rays are radiated onto the blue cells to excite the blue cells is 0.07 or less.

268. (New) The PDP of Claim 267, wherein

the blue fluorescent substance layer is made of $BaMgAl_{10}O_{17}$:Eu.

269. (New) A PDP including a plurality of cells formed between a pair of panels parallel to each other, the plurality of cells including blue cells in each of which a blue fluorescent substance layer is formed, and the plurality of cells being filled with a gas medium, wherein

a peak wavelength of a spectrum of light emitted when a blue fluorescent substance is excited by a vacuum ultraviolet ray is 453nm or less.

270. (New) The PDP of Claim 269, wherein

the blue fluorescent substance layer is made of $BaMgAl_{10}O_{17}$:Eu.

271. (New) A PDP including a plurality of cells formed between a pair of panels parallel to each other, the plurality of cells including blue cells in each of which a blue fluorescent substance layer is formed, the plurality of cells including green cells in each of which a green fluorescent substance layer is formed, and the plurality of cells being filled with a gas medium, wherein

a ratio of a peak intensity of spectrum of light emitted from the blue cells after the blue fluorescent substance layers in the blue cells are excited by vacuum ultraviolet rays to a peak intensity of spectrum of light emitted from the green cells after the green fluorescent substance layers in the green cells are excited by the vacuum ultraviolet rays is 0.8 or more.

272. (New) The PDP of Claim 271, wherein

the blue fluorescent substance layer is made of $BaMgAl_{10}O_{17}$:Eu.

273. (New) A PDP including a plurality of cells formed between a pair of panels parallel to each other, the plurality of cells including blue cells in each of which a blue fluorescent substance layer is formed, and the plurality of cells being filled with a gas medium, wherein

the blue fluorescent substance layer is made of $BaMgAl_{10}O_{17}$:Eu, and

a ratio of c-axis length to a-axis length in crystal of the blue fluorescent substance layer is 4.0218 or less.

274. (New) A PDP including a plurality of cells formed between a pair of panels parallel to each other, the plurality of cells including blue cells in each of which a blue fluorescent substance layer is formed, and the plurality of cells being filled with a gas medium, wherein

the blue fluorescent substance layer is made of $BaMgAl_{10}O_{17}$:Eu, and

a peak value in the number of molecules contained in H_2O desorbed from the blue fluorescent substance layer at 200° or higher is 1×10^{16}/g or less when measured based on a TDS analysis method.